/338 cont./

241 Sorghum (triku) (Sorghum saccharíferum) (1):

[242] 1. Sorghum is cultivated only on a very small scale. It is a delicacy that the Chiriguano reserve for children, who suck its stalk.

/339/ Sugar cane:
Melons:
Watermelons (sandías):
Prickly pear (zaisi) (Opuntia spec.):
Fig trees:
Orange trees (in the missions).

[244] The Chiriguano cultivate only on a very small scale the plants which, like sorghum, sugar cane, fig trees, and orange trees, have been introduced by the Europeans. Of these only melons enjoy general favor.

248 They always devote some parts of their fields to the cultivation of plants of value only for their arts and manufactures. These are: cotton plants (mandiyú), cucurbitaceous plants (iá) which grow on the ground next to their squash and furnish the containers they need, roucou (urukú), which scarcely exists except in the northern part of their habitat, and finally a species of reed (Arundo donax) with which they make the shafts of their arrows.

● 249 They also plant tobacco (pétĭ), but I have never seen any in their fields. According to Nordenskiöld (10, p. 25), its cultivation is insignificant and rare. The Chiriguano are not great smokers, and the numerous packs of cigarettes I took along for them found only a few devotees. Among the Toba, Matako /Mataco/, or Chorotí /Chorote/ my stocks would have been exhausted in the wink of an eye, for these Indians love tobacco more than anything in the world.

[276] [123]

297 [336] 824 [178] The use of tobacco among the ancient Chiriguano, as among their ancestors in Paraguay or Brazil, was reserved for the medicine men for their magical operations. Their use made of it a plant endowed with "mystical" virtues, and its

/339 cont./
consumption was limited (1).

1. Father Giannechini (Diccionario Chiriguano-Espagnol, etc., pp. 169-170) gives us very interesting details on this topic. Formerly, says he, tobacco was reserved for magicians and adults. He states that even today where its use is most widespread it is cultivated on only a very small scale. The Chiriguano do not have the patience to let it ripen and dry it over the fire in order to be able to smoke it.

When they were called to a sick person, the medicine men used to put themselves in a trance by smoking ever so much. By this means they discovered the author of the illness and gave him battle.

We shall see farther along (p. 76) the role of tobacco in the magical ceremonies intended to make rain fall.

At harvest time I visited the lands cultivated by the Indians of the Carurutí region in Caipipendí valley. From the end of February to the month of April, the Indians rarely spend the day at home. Most of the time they go to settle down in their fields, leaving the village as soon as the corn begins to ripen, not to return until the /340/ end of the harvest. The house of the absentees is made safe from all foreign intrusion by thorn hedges which they raise all around or only in front of the door. The latter can also be closed by a cot or bedstead, which they put up against it and anchor solidly (Fig. 6). L A

This temporary migration of the whole population of a village to the fields sometimes made my job as a collector rather difficult. It /Fig. 7 appears here/ often happened that I found myself in nearly empty villages. The rare Indians who had remained there refused obstinately, and rightly, to sell me the objects which interested me, if they belonged to an absent person.

L A [Fig 6 appears on P. 69 -- Analyst]

/340 cont./

421 Property is a sacred thing among the Chiriguano, and the nearest relatives cannot dispose of their belongings without their formal consent.

241 115 123 At the time of my stay in Carurutí, I once asked my old friend "Captain" Karnapadyú to take me to his field. He was very

249 407 797 142 291

Fig 7. Mill for grinding sugar cane at the Ivu mission. (Photo. A. M.)

241 115 [123] touched by /Plate VI appears here/ /341/ the interest that my wish implied and in an instant showed himself ready to do the honors.

His field was about 700 meters from the village on top of one of the cliffs which border the "quebrada" /ravine/ of Carurutí. Access to it was by a steep path across fallen rocks. The entrance [351] to the field was closed by a hedge composed of tree trunks and [417] thorny shrubs which we climbed over with the help of an Indian-style ladder, that is, a thick branch with deep cuts for steps.

[Text continues on p. 74]

/26 cont./

137 824 SOTO. -- This gigantic tree is found everywhere from the province of Tomina, but there are places where it is more abundant. In the spring, when the budding begins, its leaves are red, and later they turn green. In the autumn its fruit, which the parrots like, are red and are in bunches like cherries. Seen from a distance by a European, he thinks they are cherries. The wood of the soto is strong and does not rot; in dampness or in water it is better than iron, since it does not deteriorate. [342] It is very widely used in the construction of houses, especially when they are of frame construction. A great deal of tannin, which the Europeans use in tanneries, is extracted from the soto. It is called palo cuchi by the whites here and "Urundei" by the Chiriguano.

• 249 TOBACCO. -- An annual plant which flourishes everywhere, but only the whites cultivate it on a large scale, especially in Sapirangui and Chiquiacá, whose products have some fame. Even an occasional Indian cultivates it for his own use and to give to his friends. There is another similar plant, and, when he lacks real tobacco, the Indian deceives himself with its leaves. The true tobacco is called "peenti" in Chiriguano, and the other "huacapeenti," which, literally explained, means "cow tobacco." 276 In Bolivia there is considerable consumption of tobacco wrapped in paper or maize husks; rarely does one see cigars of pure tobacco, like the Havanas and others; the Chiriguano smokes a lot and acquires the habit at a tender age. [897] Children of four years of age have already begun to smoke; [562] women also smoke.

137 824 [435] TACUARA. -- In the past when there were no cattle, the tacuara, or hollow cane, was very abundant; vestiges still remain of some immense canebrakes, but the plant has been reduced almost to the cultivated one, with the result that what was previously found in the forest at the disposal of the first occupant is found today in the possession of private parties, and anyone who is planning to build a dwelling must pay for hollow cane at the rate of 80 centavos per hundred, and the worst of it is that it is not found everywhere. This lack is made up for by small rods from trees, but these are neither as light nor always

/26 cont./

137 824 as straight as cane. Beyond Santa Cruz there are still groves; in addition there are groves of another cane called "Bambú," which is the best known, and in Chiriguano it is called "Tacuarembo." It rises to a height of about 15 meters and is [417] used for making /27/ ladders and scaffolding in construction • 249 because it is light and strong. The shoots are tender and contain a sugary substance highly regarded by the Indians; it is not sought much today, because there are abundant plantings of sugar cane, which is of great utility for the production of sugar and alcohol. This last thrives with great ease and little work. Planting is done in two ways, making furrows and burying it or planting cuttings. The former is the better method where the 137 824 freshets of the rivers do not penetrate. On the slopes and tops of hills which contain water there is another sort of slender cane, very strong and heavy, which is not hollow like the other classes and is called caña brava by the whites, and [285] "Tacuarembo" by the Chiriguano. They use it for weavers' [513] reeds and for sleeping cots.

TAMARIND. -- This beautiful and useful tree is not native, but it thrives with enough care and grows to a respectable height; the fruit that it produces is abundant, consisting of abundant pods more or less the size of chick-pea pods; the pulp is blackish and pleasant to the taste, but it is bad for [757] the teeth. It is astringent and is administered as medicine for intestinal inflammations, especially to children. It is also [272] a good tonic drink on excessively hot days; it is prepared with sugar, water, and a little of its pulp. The tree is rather sensitive to cold, and the flowers wilt easily with the south wind. For this reason the whites plant it in their patios, which are surrounded by the living quarters.

TARINGUI. -- The name of this tree is Chiriguano. The taringui is found in some regions, but not in others. It is of the cactus variety, rises up to six meters, its branchage is abundant and close, which gives a fine shade against the blazing rays of the sun. Its branches or leaves are striated and armed with spines; the fruit is tiny, but sweet and otherwise pleasant, and much liked by foxes, who only get it when it falls from the tree. The ulala or opuntia is smaller than the taringui, its leaves have the same form, the color is ash-gray and they are less a abundant, or, more properly, few. The fruit is a smooth berry

/184 cont./

323 [239] the force of the heat and remains over the paintings like a binder, without which they would disappear the first time it was used. The Taragüirisi remains on the vessels like a light coat of rubber and the white of the Tovanti becomes opaque (2).

2. When a pot is slightly damaged, they heat it in the fire and on the inside and outside apply the Taragüirisi, and it is as good as before.

/185/ Textiles

286 462 [294] Another important occupation of the Chiriguano woman is weaving the Asoya for her husband, brother, or son, and the Cutama for herself. For this she prepares the wool or cotton, spins it opposite the way the mestizo and European women spin, and then bleaches it and finally dyes it.

286 In order to weave, they set up two tall, slender forked sticks in the house, with two sticks across, one above and one below, and arrange or place the threads vertically, and then sit on the ground and begin to run the woof through, thread by thread, which they hit with a pointed stick of soto wood called Piuca. This, to be sure, is time consuming, if the threads are fine, but, on the other hand, the work is very durable.

291 286 231 249 [184] [177] Ponchos, Asoya, are of two types, one of wool and one of cotton; the first are common from the right bank of the Parapiti River southward and the second from the left bank northward, because in the first region sheep are plentiful, and in the second, cotton fields. Formerly, before the whites introduced cattle into the region, cotton was cultivated everywhere, and from its product the men were dressed for ceremonies in their Tíru and the women in the Mandu, which I shall discuss in the following chapter.

/243 cont./

244 one preferred by the Chiriguano, and he has good reason, as it is quite edible, the least damaging to health, in addition to being the seed which is most resistant to drought. It is very abundant, and as many as four harvests can be taken from it.

262 252 [244] The Chiriguano plants whatever type of beans /judías/ he has or can obtain from his neighbors or companions when he runs short, because only in the case of maize, which he prefers to eat parched and not boiled, does he plant several varieties. All beans /alubia/ are good to the Indian because of the use that he makes of them, which is to boil them and eat them, to roast them under hot ashes with their pods, or, by making a hole in the ground, to heat it and burying the pods there so that they will cook.

244 If the Chiriguano frequently lacks beans to mix with the maize, it is unlikely that he will be without gourds, which grow with little cultivation and which are so resistant to drought; it is also extremely easy for him to plant this food, so much so that women and children devote themselves to it, because not many plants are needed in a plot for an abundant harvest.

244 262 [415] Twelve classes of gourds are known, but only five are edible; the other seven are used for matés. The edible ones are the following; Andai, Güindaca guasu, Güindaca mi, Güindaca mi guasu, yiquisigua; the latter has an edible interior and the exterior is useful for domestic purposes, to keep
● 249 any object in its hard shell. The gourds that serve for matés are Iá, true maté; Iá pua, round maté; Iámpe, flattened maté; /244/ Iá guasu, large maté; Iá-rai, small maté, Iá pucú, long maté, and Iá pani, twisted maté (1).

1. The Indian does not include in the number of gourds the one the two children used to free themselves from the deluge of water because it was a miraculous one.

5:Nordenskiöld E-5,4 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8

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RUTH HAEBLER, a pupil of MAX SCHMIDT, has endeavoured to shew that this is not correct. After examining a number of hammocks in German museums, she arrived at the conclusion that, in the majority of these, both palm-fibre and cotton had been used — palmfibre for the warp and cotton for the woof — and that the notion that the Arawaks have hammocks of palm-fibre only, while Caribs have only cotton hammocks, is wrong. For the rest, hammocks of mixed materials are also mentioned by PATER SCHMIDT, who thus devoted attention to this matter when he was investigating hammocks. ROTH, too, mentions from Guiana hammocks of bast with a woof of cotton. The fact really is that all the hammocks described as having a bast warp and cotton woof are from the Upper Xingú or from Guiana tracts, where there dwell Arawaks, Caribs and Tupi. If we study the appended map and table, which are based on very extensive material, we shall find that, within an immense region about the Amazon, the Indians use hammocks of palm-fibre exclusively, and that in the rest of S. America it is more especially the least civilized tribes, e. g. Siriono, Huari, Waika and others, who use bast or palm-fibre hammocks exclusively. On the coast of Brazil, the more civilized Tupi had cotton hammocks, while the less civilized tribes used palm-fibre. I would consequently account for the distribution of hammocks of different materials in the following way: — Originally the Indians in the whole of tropical S. America had hammocks of palm-fibre or bast exclusively. When the art of cultivating cotton spread from the west, many tribes began to use cotton hammocks or, in some districts, hammocks of palm-fibre with a cotton woof. Where cotton-growing remained unknown, or was inconsiderable, as among the Arawaks of N W Brazil, hammocks made entirely of palm-fibre were still used.

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Which tribes spread the knowledge of cotton growing? Certainly not the Arawaks, who within large tracts [249]

5:Nordenskiöld E-5,4 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8

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do not even spin. It must, above all, have been the Tupi - Guarani. They are known for their manufacture of cotton hammocks. The Omagua who dwell (have dwelt?) in a tract where they and the Cocama are the only Tupi Indians, use hammocks both of palm-fibre and of cotton. All the neighbouring tribes have nothing but palm-fibre hammocks. Some Tupi at the Upper Xingú use palm-fibre hammocks with a woof of cotton. RUTH HAEBLER mentions two hammocks of bast from the Cainguá. Otherwise, the Tupi tribes use cotton hammocks, as has been pointed out by PATER SCHMIDT. The Caribs, too, have undoubtedly contributed to the spread of cotton-growing and the use of cotton hammocks, for it is very evident that in Guiana especially, they have used, and still use, cotton in their hammocks far more than the Arawaks. The distribution of cotton hammocks in S. America cannot be properly understood except in connection with the general history of the cultivation of cotton. It is highly probable that it was from the western area of civilization in S. America that the knowledge of cotton-growing spread over a considerable part of the continent. It is very likely that, in post-Columbian times, the practice of growing cotton has spread to a good many tribes who formerly were ignorant of it. We must remember that cotton has been grown at such mission-stations as in Mojos on a very large scale.

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[174]

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It must also be remembered that the history of the cultivation of cotton is of especial interest, because the cotton bush is one of the few cultivated plants that in pre-Columbian time were common to both the Old and New World. Consequently, it would be very interesting if we could prove that cotton was first used in S. America within the old culture areas, and there only after the Indians had reached a comparatively high state of civilization.

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It is not quite right to say that the hammock was not used within the culture-area of the west. It was used — not as a bed, but as a litter for persons of rank. This is

71 Rosen E-5 (1901-1902) 1924 SF10 Chiriguano SF10

Fig. 189. Woman at a cooking-fire in front of her hut. In the foreground a gourd-patch; to the right an open cooking shed, the roof of which was used as a rough pantry. Chiriguano. San Luis. Bolivia. Photo. E. v. R.

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C. Ce 415 /21 cont./

The largest of these calabashes measures 50 cm. and the smallest 7.5 cm.

Ce 276 Stimulants

The Izozó whom I found in Toledo were not smokers. They attached no importance to the tobacco and pipes that I offered them. I acquired from the Chiriguano a simple wooden pipe, straight in shape, of the kind commonly used among the tribes of the Chaco, but I have seen no other pipes among them; neither have I seen them smoking.

C 276 [126]

C [126] Pipe (cachimbo) in the Collection

I. A. 740. Chiriguano. Length 10.5 cm. (Fig. 23.)

C Ce 249 276 According to Nordenskiöld, the Chiriguano and the Chané plant tobacco, but its planting is not significant and they are not great smokers. If they smoke, they ordinarily use cigarettes, with a wrapper made out of a maize leaf, and only rarely use pipes (87). This explains the very uncharacteristic form of the

C 276

87. Nord. I, p. 182. Cf. Métraux I, p. 339.

pipe that I found among the Chiriguano. A pipe of very different shape, with a special handle in front of the tobacco bowl, is represented in a drawing by Nordenskiöld (88). According to

C [177]

88. Nord. I, p. 179. Fig. 88.

the same author, the Chiriguano who live near the Quichua have received from the latter the custom of chewing coca.